

## ABSTRACT

Techniques are provided to support soft handoff in a frequency hopping OFDMA system. Each sector concurrently supports “non-handoff” users and “soft-handoff” users. A non-handoff user communicates with only one sector, and a soft-handoff user communicates with multiple sectors simultaneously. Non-handoff users are assigned traffic channels by their sole sectors, and soft-handoff users are assigned traffic channels by their “serving” sectors. For each sector, the traffic channels assigned to the non-handoff users are orthogonal to one another and may or may not be orthogonal to the traffic channels assigned to the soft-handoff users. Each sector processes its received signal and recovers the data transmissions from the non-handoff users of that sector. Each sector then estimates the interference due to the non-handoff users and cancels the interference from the received signal. Each sector further processes its interference-canceled signal to recover the data transmissions from the soft-handoff users.